REMARKS/ARGUMENTS

Reconsideration of this application and entry of this Amendment are solicited. Claims 1-6, 9 and 10 are pending in the application and under active examination; claims 7 and 8 have been withdrawn from consideration as directed to non-elected subject matter.

Information Disclosure Statement

Please see the concurrently filed Information Disclosure Statement based upon an Official Action in the counterpart Japanese application. This IDS has been filed within three months of the mailing of the Japanese Action and the necessary fee has been paid to assure consideration of this IDS.

Discussion of Amendments to the Claims

Claim 1 has been amended in order to more particularly point out and distinctly claim that which applicants regard as their invention and to include important aspects of the disclosure. The claim specifies that the adhesive material, in addition to having increased adhesiveness at 60-120°C, has an extremely low adhesiveness at room temperature. This feature is based upon the description at page 9, line 6 of the disclosure. The hot melt coated resin is further characterized as having a softening point of 50°C or higher and this may be found at page 8, last line of the description. The separator includes a microporous film which will be apparent from the overall description of the application.

It is submitted that these amendments to the claims find basis in the original description and serve to advance prosecution and thus this Amendment should be entered. Favorable consideration is requested.

Response to Prior Art-Based Rejection of Claims 1-6 and 9

These claims stand rejected as either being anticipated by or obvious over the disclosures of U.S. patent 6,387,564 to Yamashita et al (hereinafter "Yamashita et al"). Yamashita et al discloses an electrode plate coated with an aggregation layer of insulating material particles having electrolyte solution permeability as a substitute for a separator using a conventional microporous film. On the other hand, the invention of the present application provides an ordinary (microporous) separator and, in addition, an insulating layer separately provided at a portion where a part of the positive electrode which is uncoated with the positive electrode mixture is opposite to a part of the negative electrode coated with the negative electrode mixture.

Namely, the separator and the insulating layer form a double layer at the portion where a part of the positive electrode, which is uncoated with the positive electrode mixture, is opposite to a part of the negative electrode coated with the negative electrode mixture. This construction is different from Yamashita et al which construction has only one layer of an aggregation layer of insulating material particles having electrolyte solution permeability. The construction of the present invention provides a reliable, secure insulation at this portion.

Further, material to be adhered to an end face of the active material layer is not the same -- for between the aggregation layer of insulating material particles by Yamashita et al and the insulating layer for the present invention is the heat seal tape applied with an adhesive material which has extremely low adhesiveness at room temperature and increases in adhesiveness at 60 to 120°C or a resin with a softening point of 50° C or higher.

For these reasons, the construction of the present invention is not disclosed by Yamashita et al, therefore, applicants' claims are novel.

FIG 29 of Yamashita et al shows an electrode plate structure of a non-aqueous battery with an aggregation layer of insulating material particles on one side of the active material layers. However, the construction of FIG 29 does not to have the configuration of the present invention, which is to have a separator and an additional insulating layer at a portion where a part of the positive electrode which is uncoated with the positive electrode mixture is opposite to a part of the negative electrode coated with the negative electrode mixture through a respective separator. More specifically, an electrode collector located at right hand side of a positive electrode mixture layer 1b, which locates the backside surface of the positive electrode collector 1a as shown on FIG. 29, has a portion which is opposite to a negative electrode mixture layer 1b -- but on this portion, no additional insulating layer exists. Similarly, there exists no additional insulating layer on the electrode collector which locates at the left hand side of the positive electrode mixture layer 1b present in the upper side of the positive electrode collector la. Therefore, due to the construction of Yamashita et al it is not possible to effectively prevent the occurrence of a short circuit generated at this portion, which is indeed the object of the present invention.

In other words, Yamashita et al neither disclose the construction of the present invention nor recognize the subject of the present invention from the viewpoint of this Example (Fig. 29)

itself. Accordingly, the present invention is not the same as Yamashita et al and, further, it would have been difficult even for one of ordinary skill in the art to envision the construction of the present invention even if motivation from Yamashita et al would have been obtained.

Column 18, lines 40-60 of Yamashita et al, discloses that the insulating layer applied by coating or a film to the exposed electrode collector portion may be formed to prevent a short circuit. The exposed electrode collector portion includes a portion where a part of the positive electrode uncoated with the positive electrode mixture is opposite to a part of the negative electrode coated with the negative electrode mixture. However, Yamashita is totally silent about an adhesive material for an insulating film. Therefore, contemplates using as the insulating film one with ordinary adhesive material. Applicants have found that use of such an insulating film causes decreasing production efficiency due to sticking of adhesive material to manufacturing equipment during the manufacturing process. Therefore, even for one of ordinary skill in the art there is no suggestion of the arrangement of the present invention from the description of Yamashita et al.

For these reasons it is respectfully submitted that claims 1-6 and 9, as above amended, define novel and inventive subject matter. Reconsideration and withdrawal of this rejection is requested.

Response to Rejection of Claim 10

In item 6 of the Official Action claim 10 has been rejected as being either anticipated by or obvious over Yamashita et al as discussed above (presumably only Yamashita et al is applied for the lack of novelty rejection) or obvious in view of U.S. 4,610,956 to Fuchizawa et al.

Applicants submit that claim 10 is patentable for the same reasons claim 1 is patentable from which claim 10 depends. In any event, the rejection is flawed in its own right.

In column 4, lines 1-11, Yamashita et al enumerates various examples of an aggregation layer of insulating material particles having electrolyte solution permeability. On the other hand, Fuchizawa et al illustrate adhesive materials. But between Yamashita et al and Fuchizawa et al, no relationship exists from the point of view stated above and accordingly there is no motivation to combine these two documents with each other.

For the above reasons it is respectfully submitted that the claims of this application define inventive subject matter. Reconsideration, entry of this Amendment and allowance are solicited. Should the examiner require further information, please contact the undersigned.

Respectfully submitted,

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